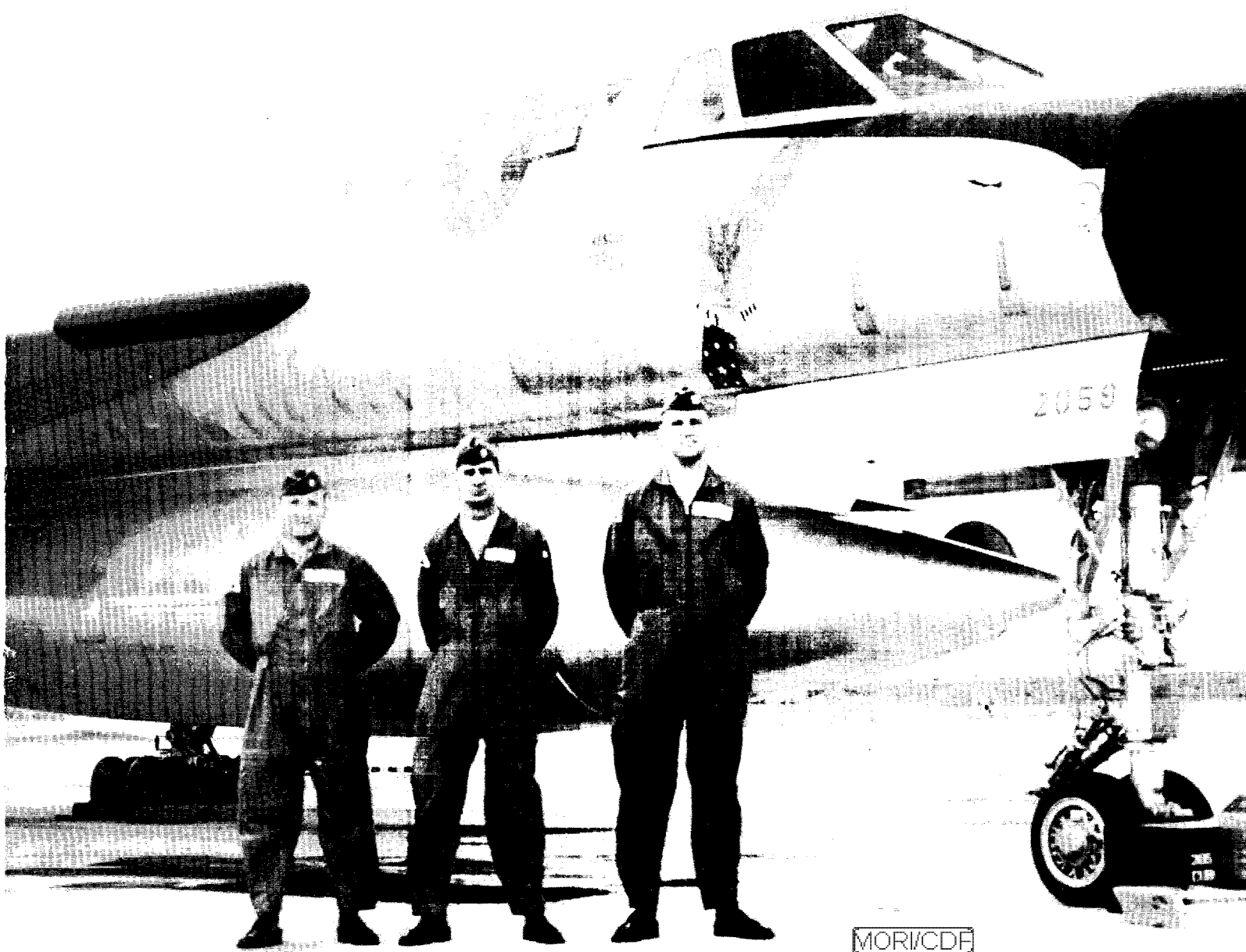


NATIONAL AERONAUTICS



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NATIONAL AERONAUTICS

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NATIONAL AERONAUTICS

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Editor

COVER . . . The General Dynamics B-51 Hustler and the SAC combat crew that set the Tokyo-London non-stop record of 8 hours 35 minutes.

In This Issue

Our country owes much to the splendid work of the National Aerospace Education Council. NAEC's Executive Director, EVAN EVANS, together with JANE MARSHALL, tells the NAEC story. Mr. Evans, an educator of long experience, became the Executive Director of NAEC in 1955. Before assuming his Washington headquarters, he had been superintendent of an elementary school district in a suburban area near Kansas City, Missouri.

In 1958 Mr. Evans was awarded the Frank G. Brewer trophy, presented annually to the "individual or organization which contributes most to the development of air youth in the field of education and training." In 1959 he spent three weeks in the USSR at the Moscow meeting of FAI, and toured a number of Soviet cities following the meeting. He is NAA and NAEC's representative on the International Aviation Education Committee of FAI and meets each year in Paris with that group.

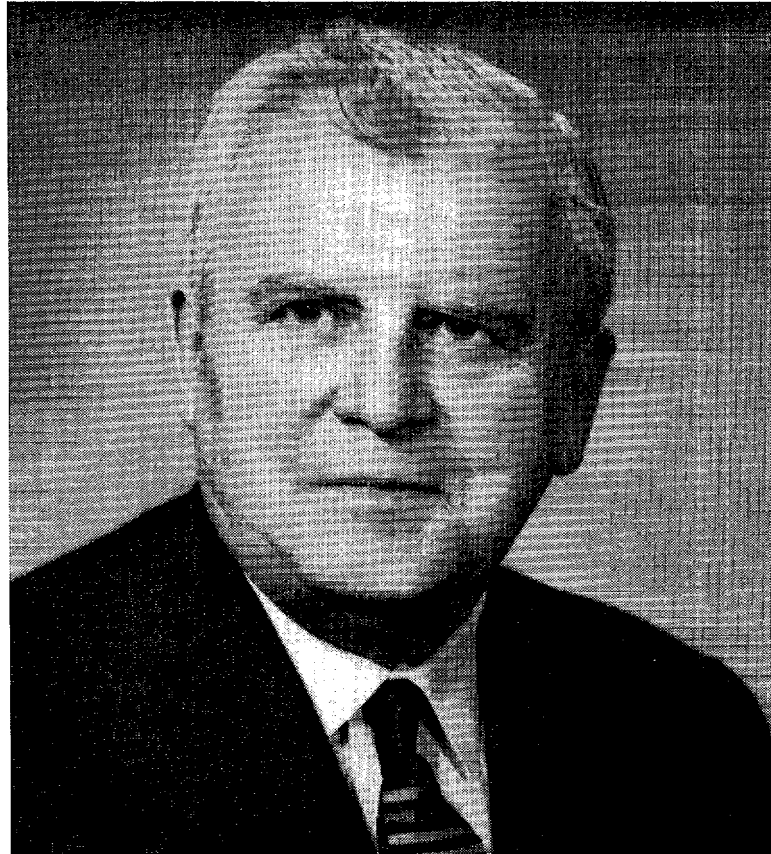
It is the quaint custom of the NAA official family to refer to certain individuals anatomically. Thus, Vice President RALPH ALFX, of helicopter fame, is known as ROTOR HEAD; Director CLYDE BARNETT answers to BALD HEAD; the President is referred to as BIG HEAD and NAA's Western Vice President and technical expert, DR. ROBERT DILLAWAY, naturally is EGG HEAD. The fascinating story of FAI and the behind the scenes operation of the work of NAA's Contest Board is told by Dr. Dillaway in his usual thorough and authoritative fashion.

Dr. Dillaway is Deputy to the Manager, Nuclionics Operation, Rocketdyne, Division of North American Aviation, Inc., which is responsible for company activities concerned with nuclear rocket engines and specialized power systems involving nuclear reactor energy sources. He has been active in the aerospace business, particularly in the propulsion area for over 20 years, and has been associated with the record work of the National Aeronautics Association, the American Representative to the FAI, for over 5 years. He is currently the American Delegate to the Astronautics Technical Subcommittee, and is Chairman of the Technical Committee of the Contest Board of the National Aeronautics Association. This Board is responsible for the stewarding and submission of all record claims for world achievements in aviation and astronautics from the United States.

CLYDE BARNETT, California's energetic and knowledgeable Director of Aeronautics, discusses a subject we'd rather not think about but which nevertheless must one day be dealt with. While State Aviation Directors seldom win popularity contests, few men in that office have as many warm friends and loyal adherents as Clyde Barnett.

We are indebted to CRAIG LEWIS, Vice President-Public Relations of ATA, for reporting the Wright Dinner of the Aero Club of Washington. We expect to hear from Mr. Lewis again, and hope that more photographs will accompany his fine stories.

KENNETH BENSON, who tells the GMAA story, is a man among men. Astonishingly, he is serving his 10th term as President of the Greater Miami Aviation Association, and now is Vice President of NAA's Southern Region. In December, 1961, he was cited by the City of Miami for his contributions to aviation progress.



LT. COLONEL MITCHELL E. GIBLO

JOHN WORTH is the Executive Director of the Academy of Model Aeronautics. At this time AMA numbers approximately 20,000 members and still is growing at a tremendous rate. NAA will take a more active part in the Academy's work in 1964. We believe it to be a most important part of our aviation education program.

BILL IVANS, President of the Soaring Society of America, writes most interestingly of the doings of SSA. Bill is a tall, slender Californian whose reaction time to any given proposition is about as sluggish as an IBM computer. Whereas his colleague, John Worth, is of relatively calm demeanor, Bill Ivans has a low boiling point. He manages SSA with a firm hand, and at a nice even gait—full throttle!

Good news is the acceptance of the post of NAA Executive Director by Lt. Col. MITCHELL GIBLO, who retired from the USAF in June, 1963, weighted down with medals and honors won in 26 years of service. Among them were the Legion of Merit, the Air Medal and the Korean "Ulchi" with Gold Star.

Col. Giblo is a graduate of Georgetown University Law School, a member of the District of Columbia Bar Association, and has been admitted to practice before the Supreme Court of the United States. He assumes his new post with considerable NAA and FAI background. For years, Col. Giblo has been on the NAA Board. He has represented us both in the Pentagon and at FAI meetings abroad, where his ability to speak in seven languages, including Russian, has been of great assistance.

Class Room in Space

NATIONAL AEROSPACE EDUCATION COUNCIL

By Evan Evans and Jane N. Marshall

The National Aerospace Education Council was first organized in 1950 by representatives of industry, education and government — specifically, the Civil Aeronautics Administration, the American Association of Colleges for Teacher Education, the American Association of School Administrators, the U. S. Air Force, the Aircraft Industries Association, the Air Transport Association and others. Shortly after it was organized, the Aerospace Industries Association (the then Aircraft Industries Association) offered financial support to the organization for printing, publication and distribution of educational materials. To administer these funds, NAEC organized a Materials of Instruction Committee which determines publication policy, employs an editorial staff and approves NAEC educational publications. Present members of this committee are for the most part professional educators, but a few industry representatives complete the committee's membership.

In 1955, Miss Jacqueline Cochran, then Executive Vice President of the National Aeronautic Association, and Mr. Thomas G. Lanphier, Jr., then President of the National Aeronautic Association, led the National Association into vital and basic support of the National Aerospace Education Council. Without NAA, NAEC would probably not have set up an office and be engaged in its present extensive and effective program.

Today, NAEC is an independent, nonprofit organization directed by professional educators who are convinced that the use of aerospace materials in the regular science, arithmetic, social studies, or reading classroom enriches instruction and relates it to life.

NAEC Programs

The Council has several major

Note: Mrs. Jane Marshall is Editor, Materials of Instruction Committee, of the National Aerospace Education Council.

programs. First, it publishes inexpensive students' books on such subjects as jet aircraft, air cargo, helicopters, aircraft manufacturing, aviation as it relates to agriculture and space exploration. NAEC books range through all grade levels, from a reading readiness book for first grade to a report on the frontiers of space for senior high school students. Teaching aids are available, too—aviation units for primary and intermediate grades, and aids for science, English, or social studies teachers in the secondary schools. To mention a few. Almost all of these books have been developed by classroom teachers or curriculum committees. They are tested in the classrooms for months before they are published by NAEC. These books are for sale, at little more than cost, to individuals or to school districts and libraries.

One of the best breaks NAEC has had recently was when the Aerospace Industries Association discontinued the AIA Yearbook after 1962. This Yearbook had been a cloth covered book and sold for six, eight and ten dollars, and from it NAEC had been permitted to pull pertinent sheets and print what is called *U. S. Aircraft, Missiles and Spacecraft*. This had been a publication of NAEC annually since 1957. In 1963 when AIA discontinued the Yearbook, 1963 *U. S. Aircraft, Missiles and Spacecraft* of NAEC became immensely more valuable and, subsequently, it became a better selling book for NAEC. There will be no AIA Yearbook in 1964 so we may hope the 1964 *U. S. Aircraft, Missiles and Spacecraft* will be an item that will be very popular.

Another major program of the Council provides service to its members who may be individuals, schools, or libraries. For a modest membership fee of \$5.00 a year, members are assured of a continuous supply of up-to-date material consisting of one copy of each book published by NAEC during



EVAN EVANS

the membership year, a selection of previously published books, three aviation periodicals, large colored charts and pictures of aircraft and missiles, plus eight monthly packets of suitable and attractive government and industry-produced instructional materials. The items in these packets—pamphlets, booklets, charts, small pictures, etc., are screened and evaluated by NAEC and made available to NAEC members.

The quantity and quality of materials received through NAEC membership has prompted many enthusiastic responses. "I get more benefit and pleasure from this material than any other publications . . . It never gets into the scrap basket" writes a teacher from LaPorte, Indiana. An assistant professor of education at Stanford University agrees that ". . . the procurement of up-to-date authentic information in specialized areas has always been a problem, and the service of this organization (NAEC) in providing this kind of material for teacher and pupil use is invaluable." The Dean of the College of Education, University of North Dakota writes, "The total service of NAEC are practically indispensable for an adequate and complete enrichment of a teacher education program." A teacher in

Watsonville, California states “. . . valuable use of our program for the ‘Gifted Child’. Terrific! — Keeps me up to date! Improved the vocabulary of my students . . .” And a former U. S. Commissioner of Education writes, “. . . let me offer a word of commendation to the work of the National Aviation Education Council. Anyone who has read, or even thumbed through, the publications of that organization, or of the publications distributed under its auspices, knows what I mean. The work of the council is commendable for the quality of its material and perhaps even more important, because it was among the first to appreciate the need for aviation education in our schools. In the true sense of the word, the National Aviation Education Council is a pioneer — pointing the way to filling a gap within the American Educational system. Without its efforts, many of our educators, burdened with heavy work loads, would be unable to cope with the impact of the air age on their school systems.”

A third type of NAEC service called “The Institutional Service of NAEC” has been added. This service is designed for institutions or for individuals who are in a position to distribute quantities of materials within their own organizations, such as state aeronautics directors, school superintendents, curriculum directors, librarians, and laboratory school directors. This service costs \$100 a year.

A fourth and important program of NAEC is that of furnishing free teaching aids — bibliographies, lists of sources of free and inexpensive aerospace education materials, SKYLIGHTS, suggestions for developing units and teachers’ kits. Requests for these free materials have grown so numerous that it has become necessary to curtail quantity mailings.

In encouraging aerospace education, NAEC works directly with teachers, colleges, teacher in-service institutes, aerospace education workshops and local school districts. The Council’s materials, advice and inspiration are made available to these groups. NAEC cooperates with the Civil Air Patrol and with State Directors of Aeronautics—in

fact, with any group having an interest in aerospace education.

All of these NAEC activities and programs service the organizations objectives which are listed in the box at the end of this article.

The Council has been fortunate in that its Presidents and other officers have been leaders in education, in industry and in the government. Superintendents of schools, college presidents, directors of divisions of universities, the principal of the largest aviation high school in the world, and others, have served as President of the Council.

Flying President

The current President is William C. Hinkley, Superintendent of Schools, Aurora, Colorado. Mr. Hinkley is an ideal type for presidency of an aerospace education group. He was a pilot with Eastern Airlines, has been a coach, taught school, member of the Colorado Legislature, principal, and now, for several years, has been Superintendent of the Adams-Arapahoe School District 28J, Aurora, Colorado. This school district has been growing at a fantastic pace. Since Mr. Hinkley has become Superintendent there has never been a time that from one to a half dozen buildings have not been under construction or expanding. Stapleton Field in Denver is adjacent to his school district and the school population is very heavy.

Mr. Hinkley enjoys that very rare distinction of building a high school and having it named for

him while he is still serving the District as Superintendent. Rare, indeed, when this happens.

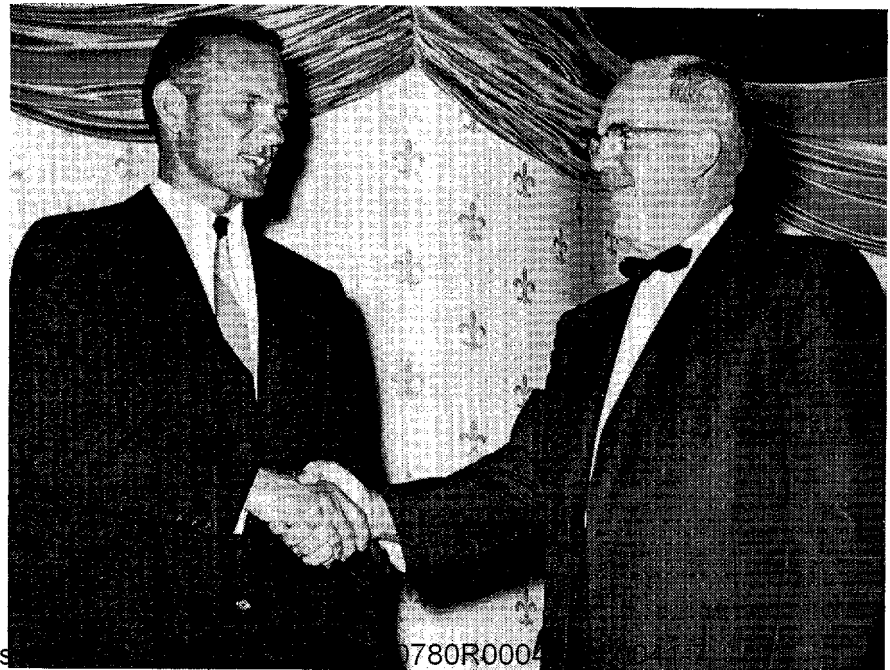
Being a long-time pilot, he has a great love for flying. He owns his own Cessna and almost every clear day he tries to think of some reason to take somebody somewhere or go somewhere to see someone. He knows every airport, every airport operator, every airplane salesman, every utility aircraft distributor or representative in a large area with Aurora as the center.

The Aurora Public Schools have for years offered institutes in aerospace education that have been a model for many institutes throughout the country. Mr. Hinkley, being a pilot and an airplane owner, holds to the theory that teachers would be better teachers and more happy if they have been up in airplanes. And he believes the full experience of flying has not been realized until the teacher has been up in the small utility type airplane. In fact, all of the teachers who have taken the aerospace institute programs in the Aurora schools have had orientation flights in small airplanes, and a very great percentage of them have been taken up by Mr. Hinkley in his own airplane.

It is no wonder that the members of NAEC, searching for administrative leadership, have turned to this man who has wide experience in aviation and who has been an administrator constantly confronted with problems of financing, administering, staffing, and directing

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NAEC President William C. Hinkley (right) greets National Airlines President Lewis B. Maytag, Jr. at the Seventh National Conference on Aerospace Education, when Mr. Maytag addressed the banquet session.



March, 1964

The High Tribunal of

FEDERATION AERONAUTIQUE INTERNATIONALE

Archives for World Aerospace Records

By Dr. R. B. Dillaway

The Federation Aeronautique Internationale, better known as the FAI, was created some 55 years ago about the time of the first aircraft competitions held at Rheims, France. The Aero club of France was instrumental in forming this organization. It has parallels in the International Automobile Association and other international bodies concerned with maintaining standards of stewardship for competitive world records. The FAI is specifically the archives and authority on world records with manned aircraft and also today with manned space vehicles. Today, over 50 nations of the world belong to the FAI. This is a Federation in which one aero club in each member nation is designated or franchised to be the operating agent for the FAI in stewarding attempts at world records. These clubs also have responsibility for maintaining standards in stewarding world competition in such things as parachuting, flight aerobatics, speed races, glider championships, etc.

The FAI has maintained a Secretariat at 6 Rue Galilee, in Paris, for the entire period since its creation. This office has been staffed by a Secretary General and minimum secretarial help. It has, by maintaining high standards for integrity and care in accepting and accrediting or homologating world record attempts submitted by the various National Aero Clubs over the past years, maintained a very high degree of authority and responsibility throughout the world.

Record Integrity

One of the reasons for this high degree of respect for the organization has probably been the long tenure of the few Secretary Generals which the Federation has had in recent years. Mr. Harold Gillman, who recently retired during the past year, held this position for over 15 years. He has been succeed-

ed by Mr. Charles Hennecourt, and we look forward to a long association with this gentleman.

A second and equally important reason for the maintenance of the high degree of integrity of the FAI record work has been due to the method of maintenance and updating of the rules and regulations and classifications by which the records are recognized. This includes specific regulations governing how the record must be attempted. The FAI meets in General Assembly once a year, at which time delegates of all aero clubs meet and ratify the actions taken by the working executive body (the Bureau) and subcommittees throughout the year. The pressing business activities during the year are carried out by a Bureau which is made up of 12 Vice Presidents, elected from the 55 member nations. This Bureau is elected each year at the annual meeting of the FAI in open session. Nominations for the posts are made by each National Aero Club. Sitting as technical specialist and making recommendations to the Bureau, and finally to the General Assembly are specific technical subcommittees, the most important of which is the Sporting Commission.

This commission is made up of delegates from 25 member nations which meet at least once a year, and over the past years has been meeting as often as two or three times a year in order to take care of technical advice to the Secretary General as far as authentication or homologation of record claims submitted, and for the purpose of modifying the Sporting Code which is the body of published rules and regulations under which the record attempts must be made. As in any activity associated with a rapidly advancing technology the Contest Board of the National Aero Clubs, the U. S. National Aeronautics Association and the



DR. ROBERT B. DILLAWAY
of Los Angeles, California

Sporting Commission of the Central Aero Club of Russia (the two countries which are doing most of the record work at the present time) continually find that details in the Sporting Code need to be modified or corrected in order to make record attempts realistic or in order to be able to clearly establish that the record was made. For instance, over the past couple of years, the distances flown on duration and closed-course records have been so great that it has been impractical to use ground station observers in order to authenticate the flight course flown by the pilot. Therefore, we have suggested in these committees that this rule be modified so that a steward can be carried on board the contest aircraft and that electronic gear in the airplane and on the ground, which has been checked and approved by the technical committee of the Sporting Commission, be used in order to establish the true course followed by the airplane in such records. We have recently suggested and had

accepted a new class record for altitude in sustained flight. The creation of planes such as the famous U2 make such a class record feasible and of international interest. The rules regarding helicopter flight have had to be continually modified as more experience is gained in the operating characteristics and capabilities of helicopters.

Committee Conferences

One might expect that all of this could perhaps be done by mail, and perhaps could be done on a sort of bi-annual basis. However, in any loose federation such as the FAI where there are many different cultural backgrounds and many language barriers (French and English are the two official languages of the Federation) it is a very tedious and slow process, taxing the patience of many individuals in getting points across and getting general acceptance by the committee of changes in the rules. Even though translators are present, the meaning of words between languages or the understanding of a word in one language certainly is different in different cultural backgrounds, whether it be Japanese, Russian, American or South African, etc. Therefore, even though the committees meet for several days and work very hard, every time they meet the rate of progress is very slow. In a loose federation like this there is no possibility of rapidly ramming through changes. This would do nothing but degenerate the organization and defeat the purpose of the committee activities. Slow, painstaking discussion is required so that there is general unanimity of action by the committee in recommending actions to the Bureau and FAI General Convention. Results of this slow painstaking operation has been the accumulation or the establishment of a set of Sporting Codes in two volumes, which is the bible by which all world competitions must be operated which are to be recognized by the International Federation of Aeronautics.

As in all organizations, when interest increases, and size of operation grows, new committees are formed and smaller working bodies instituted. While the Sport-

ing Commission has overall authority and the last word on recommendation for approval of Sporting Rules and classification changes, several other committees have grown up which are formed by representatives from other sporting specialties, such as acrobatics, gliding, parachuting, and aeromodeling. These committees operate under the approval authority of the Sporting Commission. Their main functions are to plan and carry out world competitions in the various specialized sporting activities. They also train and select judges for this world competition and set down the rules and details by which the competition is carried out in any country. At all times, however, these are carried on within the framework and under the rules as laid down by the Sporting Commission. Special committees are established for gliding, parachuting, model flying, acrobatics, education, and general aviation.

Russia on Committees

Four years ago, the American delegation to the Sporting Commission for the National Aeronautics Association proposed that the Sporting Code be extended and rules and world record classifications be established for world space flight. This was agreed to by the Sporting Commission members, including the Russians. A draft set of record classifications and rule requirements were presented to the Commission by the American delegation at the meeting in Barcelona in 1960. These were accepted as initial draft documents with some modification after a discussion was held on them between the American and Russian delegations. This discussion was slow and painstaking, and was necessary in order to clarify the interpretation of the wording in order that it would be clearly understood without confusion by all members of the commission. Over the past three years these record classifications have been extended to include such items as altitude, duration, speed, distance traveled by a man in a space vehicle. Absolute world records as well as class records for orbital as well as non-orbital space flight have been laid down. Over the last three years, modifications have been suggested

by various committee members as to the requirements for the record dossier in this area which is submitted by the National Aero Club to substantiate the claim for a world record. In 1962, the Sporting Commission finally decided that a special sub-committee or separate committee under the CASI, should be formed of experts in space flight from the various countries, in order that the proper authority and judgment might be available in working out continuing details for the rules and record classifications, and for aiding the Secretary General in homologating or accepting record claims for the various National Aero Clubs. A separate Astronautics Committee was established for dealing with this particular segment of record sporting activity, again under the auspices or the authority of the Sporting Commission. This committee has continued to meet one to four times a year to pass on record claims submitted by Russia and the United States, and to continue to work on further record classifications and rules for carrying out the flight and for documenting claims.

Finally, a first draft document of the classifications and regulations was agreed to in 1962, and became a section of Volume 2 of the Sporting Code. Thus, three years after starting to frame Astronautics World Records, a first acceptable draft of rules, regulations and classifications was accepted by the Astronautics Committee and approved by the Sporting Commission and General Conference of the Federation. The Committee continues to work and will probably meet at least once a year to consider necessary modifications to the record classifications and rules for making the records and to help the Secretary General in passing on record claims. Already in the last year, two or three class records have been suggested by various countries. These include records for group flights, records for flights with rendezvous, records based on degree of eccentricity of orbits in flight, etc.

Aside from the interest that this sort of activity generates worldwide in aviation and aircraft, it is a very stimulating and interesting

Continued on page 24

SAC Launches the**TOKYO EXPRESS**

A recent visit to the huge General Dynamics plant in Fort Worth was a depressing experience.

Vacant were the long lines where once the B-58's were assembled. A small crew of mechanics was dismantling the production jigs. The tiny electric cars that once hurried personnel over the wide areas of the plant were still—parked in a long yellow line. The atmosphere resembled a ghost town more than the plant of one of America's largest builders of military aircraft.

The inactivity at GD's Fort Worth Division is a result of the abandonment of the B-58 program, as other bomber programs have been discarded. General Curtis LeMay has strong support in his contention that we have erred in forsaking manned military aircraft for a missile system. General LeMay's faith is substantiated by two impressive demonstrations of the capabilities of the manned weapon systems: the 1962 record non-stop flight of more than 12,000 miles by a B-52H and the non-stop Tokyo-London record run in October, 1963 by the General Dynamics B-58 Hustler.

The USAF conducted the B-58's record flight, which SAC designated Operation Greased Lightning, as a routine training exercise. The record setting airplane took off from Okinawa and passed through the official starting gate at Tokyo at 5:59 A. M. London time. Eight hours and thirty-five minutes later, the ship crossed the finish line at London, after traveling non-stop 8,028 statute miles at an average speed of 938 miles per hour. The aircraft commander was Major Sidney Kubesch, 33, of El Campo, Texas. His navigator was Major John O. Barrett, 32, of San Antonio, and the defense system operator was Captain Gerard R. Williamson, 26, of New Orleans.

Five aerial refuelings were accomplished during the flight. On each occasion it was necessary for

the B-58 to descend to 25,000 feet, rendezvous with the tanker, refuel and climb again to cruising altitude above 50,000 feet. Almost two hours of the total flight time was spent in refueling operations. To average 938 miles per hour, the B-58 cruised at speeds above 1200 mph.

To maneuver the tanker and its B-58 receiver completed what is called a high-speed rendezvous. Essentially, this is what happens.

The tanker flies at around 500 mph at about 26,000 feet, flying a 24 nautical mile holding pattern. Meanwhile, the bomber is flying toward him above 50,000 feet at almost three times the speed of the tanker. On the side of the holding pattern when the two aircraft are heading in opposite directions, they approach each other at about 2,000 mph.

When the two aircraft are about 70 miles apart, the tanker makes a 180 degree turn timed to put him on the same course as the oncoming bomber but below him. At this same time, the B-58 pilot—flying at Mach 2 at 50,000 feet—pulls his bank of throttles back to idle, and begins a supersonic penetration. He lets down about 30,000 feet to an altitude about 1,000 feet below the tanker and, with engines still on idle, begins to bleed off speed. At the same time the bomber is making his penetration, the tanker completes his turn back to the bomber's course. The bomber is now climbing slowly from below about four miles to the rear of the tanker.

When the bomber puts his nose just 30 feet from the tanker's tail, he is flying at the exact same course and airspeed as his tanker. The tanker boom operator, lying on his stomach in the tanker's tail, controls the long refueling boom until it locks into the bomber's nose. While the two aircraft are hooked together, the fuel is transferred. Such aerial refueling is a routine, constantly practiced operation within the Strategic Air Command.

At Strategic Command Headquarters some questions have been answered. At first something of an operational headache, the B-58 supersonic bomber has been developed to acceptable dependability. The aircraft can be diverted in flight to any spot on the globe if need be, and down there supersonically. Bases in the Far East are now well able to handle the esoteric problems associated with B-58 support. Combat crews of the bomber, tankers and support aircraft have reached a peak of maximum efficiency. Finally, the B-58 has proved itself the world's most formidable supersonic bomber and a major deterrent to possible foreign aggression.

To the crew of the record setting B-58 bomber, the flight was just a short day's work. In fact, Major Kubesch commented, "The whole trip seemed like one big refueling exercise!"

SAC, Commander-in-chief General Thomas S. Power's comment was tersely explicit: "The B-58 record run from Tokyo-to-London again demonstrates the capability of Air Force manned weapon systems to reach strategic targets halfway across the globe in a minimum amount of time.

"The longest supersonic flight in history further emphasizes that United States advanced manned weapon systems contain the inherent capability to respond rapidly to any level of aggression anywhere.

"This flight also demonstrates the outstanding professional capabilities of combat crews of the Strategic Air Command."

NAA's Contest Board personnel handled the certification of the flight.

The previous Tokyo-to-London record was held by an English Canberra crew who completed the flight in 17 hours, 42 minutes on 25 May 1957. The Canberra averaged 335.71 mph.

National Aerospace Education Council

Continued from page 3

one of the large and highly regarded public schools in the State of Colorado.

So long as NAEC can attract men and women of the type of Bill Hinkley and the caliber of others on the Officer and Board staff as leaders in their programs, the future is assured.

NAEC Leadership

Some of the other leaders are Mrs. Juanita Winn, Secretary of the Council, who is an Elementary School Supervisor in the District of Columbia; Mrs. Shirley Marshall, Chairman of the International Committee on Aerospace Education for the Ninety-Nines, who has led Tucson, Arizona to make a great impact on air age education. Under her leadership, the Tucson Ninety-Nines group sponsors a Penny-a-Pound Day every year. The entire proceeds are used to buy memberships in NAEC or Institutional Services in NAEC or books and materials of NAEC, for use by the teachers, boys and girls in Tucson or in the flying vicinity of Tucson.

It's a dangerous technique to select leaders in aerospace education and in the active program of NAEC, but we think it's safe to mention Wes Sharp of the State Aeronautics Department in Iowa; Mary Jo Jancy, State Department of Education in Montana; Mr. James Sandilos, Superintendent of Schools, Pennington, New Jersey; Ray Johnson, Illinois Civil Air Patrol; Dr. K. Richard Johnson, President of the National College of Education in Evanston; Dr. J. Wesley Crum, Dean of the Department of Instruction at Central Washington State College, Ellensburg, Washington, etc., who are truly professionals in their own fields and who, in addition to that, give constant and continuous support to the program of aerospace education as it is made available by and promoted by the National Aerospace Education Council.

NAA members and adults interested in the future of aviation are, no doubt, well aware that the boys and girls who are in school



Aurora, Colorado teachers are introduced to general aviation aircraft as part of an in-service course in aerospace education. Clinton Aviation, a Cessna distributor, contributes to the teachers' aviation experience by furnishing brief orientation flights.

in America today will be the customers, the pilots, the passengers, the technicians, etc., the day after tomorrow. It is to that end that NAEC attempts to provide materials for teachers and stimulation to teachers so they will take aviation right into the classroom along with arithmetic, English, science, etc.

Readers of *National Aeronautics*

are urged to write to National Aerospace Education Council, 1025 Connecticut Ave., NW, Washington, D. C. 20036, asking for information about these services, for catalogs and books, etc., and it is hoped that NAA members will be getting the materials and directing the attention of public and private school people in their areas to the services of NAEC.

The Aims and Objectives of the National Aerospace Education Council

- a. The primary purpose of the Council is to aid schools, both public and private, teachers and school administrators, at all levels of education, in curriculum development and improvement.
- b. To encourage, aid and sponsor the study of man-made flight, in air and space, and the influences thereof upon curricula and teaching methods.
- c. To encourage and aid in the development of courses for teachers and school administrators, in Colleges for Teacher Education and in Workshops, for the study of air and space flight and the useful application of appropriate elements thereof to curricula and classroom teaching.
- d. To aid State Departments of Education and Teacher Associations, by means approved by them, in utilizing the educational values of air and space flight in curriculum development and improvement.
- e. To aid school libraries and librarians by making available a reference material service of information relating to air and space flight.
- f. To aid school vocational guidance counsel counsellors by making available current information on job opportunities in the field of aviation.
- g. To encourage and aid research programs in air and space education.
- h. To evaluate, recommend, publish and distribute educationally suitable materials pertaining to air and space flight.
- i. To encourage and aid through education, an understanding of air power and space exploration in relation to national defense and training.
- j. To encourage and aid, through education, an understanding of air power and space exploration in relation to the peacetime pursuits of society.
- k. To encourage, aid and sponsor the development of community leadership in air and space education.
- l. To survey, study, evaluate and make known the resources available to educational agencies for air and space education.
- m. To encourage educational travel.
- n. To encourage and aid programs of air and space education approved by State Departments of Education.

After 60 Years

KITTY HAWK—*Mission Accomplished*

FIRST FLIGHT AIRPORT DEDICATION FEATURES 60TH ANNIVERSARY PROGRAM

The dedication of First Flight Airport at Kill Devil Hill, N. C., was the climax of a three day program commemorating the 60th anniversary of flight at Kitty Hawk. The event received wide publicity and any reader of aviation magazines is familiar with the happenings of those three days. The past history of Kitty Hawk, however, is rarely recalled.

Following the first flights of the Wright Brothers on December 17, 1903, no action was taken to commemorate the spot or the occasion until 1925, when a group of North Carolina citizens banded together to stage an annual observance at Kill Devil Hill on the anniversary date of the first powered flight. This group was later re-organized and is now known as the Kill Devil Hills Memorial Society.

In 1928 the sixty-five foot high granite monument memorial atop Kill Devil Hill was dedicated. During this same year, the National

Aeronautic Association erected a six foot tall granite boulder on the exact spot from which the first successful powered flight took off.

Beginning in 1949 the annual observances at Kill Devil Hill were co-sponsored by the Kill Devil Hills Memorial Society, National Park Service and the Air Force Association. In 1961 the National Aeronautic Association renewed its interest in the annual observances and became a co-sponsor with the other three organizations.

Historic observance programs were staged in the Kitty Hawk area on the twenty-fifth anniversary of the first powered flight, 1928, and the fiftieth anniversary, 1953. The fiftieth anniversary program ran for four days and featured participation by some 200 aircraft on all four days. The attendance for the four-day program totaled 14,500, and the observance was covered by seventy-nine national and international newsmen.

In 1957, the National Park Service announced plans for the construction of the Wright Brothers Museum and Visitors Center. Construction was completed in July, 1961 and the Museum and Visitors Center was dedicated on December 17 of that year.

Last year, at the December 17 program, Mr. A. Clark Stratton, Assistant Director of the National Park Service, announced plans to construct the First Flight Airport near the base of Kill Devil Hill. The National Park Service, the Federal Aviation Agency and the State of North Carolina agreed jointly to construct the Airport and to share equally in its cost, estimated at approximately \$120,000.

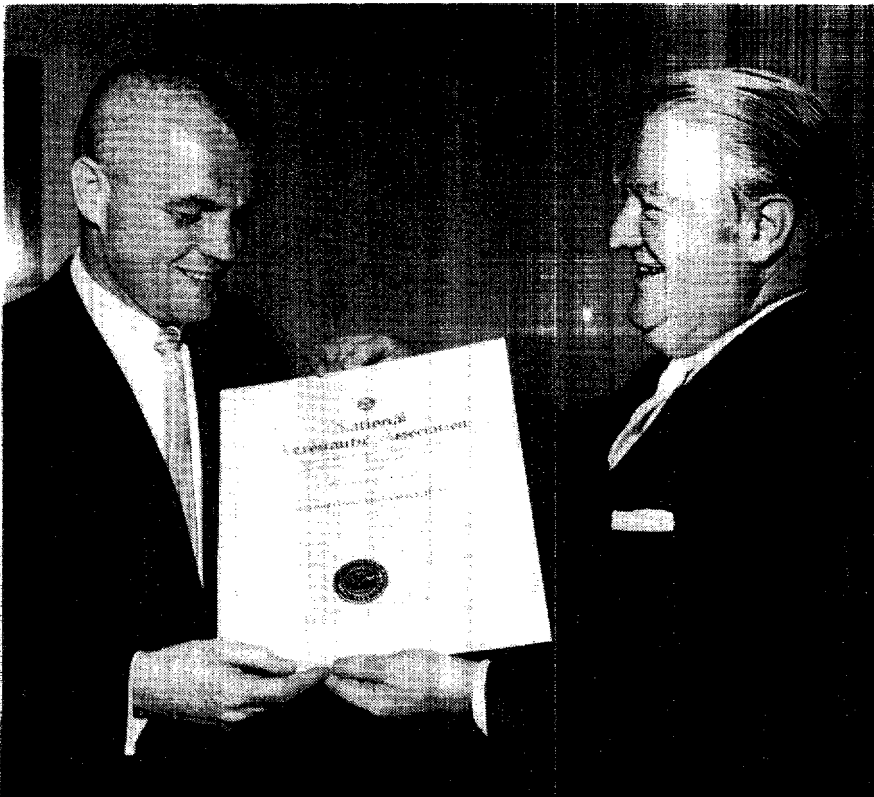
In late 1962, the Washington Section of the Institute of Aerospace Sciences, now known as the American Institute of Aeronautics and Astronautics (AIAA), became interested in arranging for a full-scale model of the Wright Brothers plane to be constructed for display in the Museum and Visitors Center at Kill Devil Hill. Early in 1962, the Washington Section of AIAA announced its plans for "Project 60," the construction of the full-scale model plane flown by the Wright Brothers in 1903. The model was completed in time for the 1963 ceremony at Kitty Hawk.

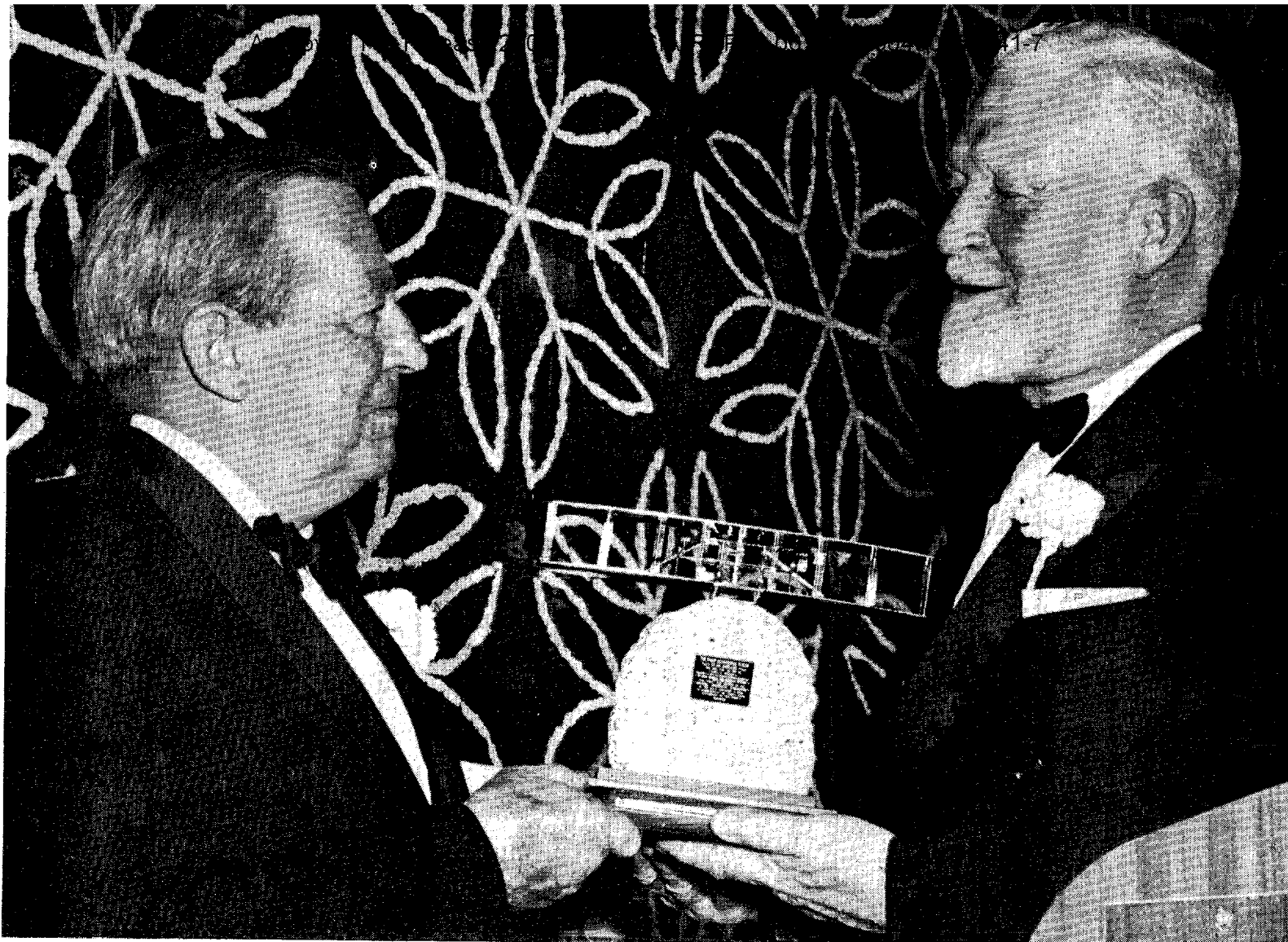
In 1963, the Soaring Society of America decided to have an appropriate plaque sculptured, citing the Wright Brothers glider activities in the Kitty Hawk area. The plaque was completed and presented on December 17. It will be installed outside the Museum and Visitor Center.

The National Aeronautic Association sponsored the 1963 Kitty Hawk program, in which 12 aviation organizations cooperated. Ralph Whitener, then NAA Executive Director, acted as General Chairman and Coordinator. He led the project to its successful conclusion.

NATIONAL AERONAUTICS

LT. COL. JOHN H. GLENN, JR., Project Mercury Astronaut, receives his official National Aeronautic Association record of his orbital flight on the occasion of the 60th Anniversary of Powered Flight at the Carolinian Hotel, Kitty Hawk Area, December 16, 1963, from Brig. Gen. Joseph P. Adams, Senior Vice President of the National Aeronautic Association.





DONALD W. DOUGLAS, SR., (left), Board Chairman and chief executive officer of the Douglas Aircraft Company, accepts the Wright Brothers Memorial Trophy from Vice Admiral Robert B. Pirie acting for the National Aeronautic Association. The trophy is awarded annually for "significant public service of enduring value to aviation in the United States."

Aero Club of Washington's

SPOTLIGHT ON DONALD DOUGLAS, SR.

Industry Leader Receives Wright Memorial Trophy

By Craig Lewis

Six decades of aviation progress were honored by the Aero Club of Washington during its Wright Memorial Dinner on December 17.

As customary, the dinner was the forum for presenting the Wright Memorial Trophy, awarded every year to a representative of the aviation industry "for significant public service of enduring value to aviation in the United States."

Donald Douglas, Sr., board chairman and chief executive of the

Douglas Aircraft Co., received the Wright trophy. It was presented by Vice Admiral Robert B. Pirie, USN (Ret.) in behalf of the National Aeronautic Association, which serves as custodian of the trophy. Douglas was cited for his distinguished service with government in various capacities, together with his many valuable contributions to the nation as engineer and businessman.

Six aerospace pioneers were introduced as symbols of each of the

six decades of aviation progress.

Major General Benjamin D. Foulois, USAF (Ret.), who flew with the Wrights, was related to the pioneering first decade of aviation with the beginning of military flying.

Jerome Hunsaker, Department of Aeronautics and Astronautics of the Massachusetts Institute of Technology, symbolized the start of interest in the aeronautical sciences and the establishment of the Na-

Continued on page 17

Akron Chapter

HONORS ARLENE DAVIS

James Pyle Speaks at Wright Dinner

The Akron Women's Chapter paid tribute to Arlene Davis of Cleveland at its annual Wright Day Dinner, December 16, citing her many years as a paladin of general aviation. Mrs. C. A. Hulsemann was the dinner chairman. Mrs. R. S. Sheldon was publicity director.

The Club also honored Russell S. Colley, known as the "Father of the Space Suit." Mr. Colley is a project engineer in the Aerospace Division of the B. F. Goodrich Company.

The Aero Club of Kansas City joined the Akron Women's Chapter in honoring Arlene Davis. Mrs. William E. Brown, Akron Honorary Life President, presented Kansas City's Distinguished Service Award to Mrs. Davis, who began her flying career in the late 20's.

Mrs. Davis obtained her multi-engine and instrument pilot ratings and participated in many cross country air races. She has made both East and West crossings of

the Atlantic in her Beech Travel Air. An NAA Officer and Director for many years, she has been a leader in NAA's education programs and is now NAA's Representative on the Board of the National Aerospace Education Council.

James T. Pyle of Washington made the feature address at the Wright Dinner. Foreseeing problems now developing in the aviation industry, Mr. Pyle suggested that industry leaders should act now to permit the continued growth of U. S. Aeronautics.

Generally, he said, the industry is suffering a continuing loss in the number of active airports. Our aircraft manufacturers are lagging in the production of short-haul jets, and too much emphasis now is being given space research, at the cost of much needed advancement in aeronautical research and development.

Stating that he considered the yearly crop of student pilots to be inadequate, Mr. Pyle advocated a



Mary Brown (left) presents to Arlene Davis the Distinguished Service Award of the Aero Club of Kansas City.

survey of present pilot training procedures in an effort to make training more simple and less expensive. We will continue to lose both private and municipal airports to housing and industrial developments, Pyle said, unless civic authorities act now to stop the conversion of essential airports to other uses.

Mr. Pyle deplored the purchase of foreign made short-haul jets and urged that U. S. manufacturers expedite the development and pro-

Continued on page 21

Arlene Davis, Mary Brown, James T. Pyle and Russell S. Colley.



THE GREATER MIAMI AVIATION ASSOCIATION

By Ken Benson

The Greater Miami Aviation Association is a unique organization. It is unique in the fact, that to this writer's knowledge there is no other community aviation organization that has met every week consistently for almost 37 years, (with the two week exception each year during Christmas and New Years), and discussed aviation subjects and problems. It is also unique, that because of its one track mind, it has been able to accomplish so many progressive things for this area in the way of promotion of aviation industry and airline headquarters, that today the Miami International Airport is recognized as "The Jet Crossroads of the World."

Some twenty-five far-seeing business men met back in 1927 and decided to let the world know that they had discovered among other things, that the Miami area was going to become "The Playground of the World." They recognized the fact that this new method of transportation, the airplane, was the best way to get people here quickly and give them more time in the sun. Therefore, they must have airports to take care of the planes. They chartered "The Greater Miami Airport Association" on July 28, 1927. Today, some 37 years later, there are over 30 airports of various sizes in the Greater Miami area. In 1949

the organization changed its name to the Greater Miami Aviation Association, to give a larger scope to its activities. There is some discussion now of a further change of the name "Aviation" to "Aerospace," inasmuch as the industrial trend is now in that direction.

Sponsored All American Air Maneuvers

To detail a history of the various accomplishments of the organization, and the various individual members, would probably end up in being of book length. However, one of the best known projects was the some 20 All American Air Maneuvers that the organization sponsored between 1929 and 1950. They were discontinued during World War II. During that time over 2500 planes participated, either in the events or on the Gulf Oil Company Tours, when all gas and oil to and from Miami used by private airplanes was provided by the Gulf Oil Company. This one project did more good toward starting a lot of private pilots in cross country flying than any other one event. Secondly, it brought a lot of people to Miami who otherwise would never have made the trip. Hotel rooms were provided these Tour-Guests at \$1.00 a night. Banquets and aviation balls were given in their honor. After the Maneuvers, a Miami-Fla-



KEN BENSON

vana Air Cruise was held and two to three days were spent there. The Cuban Tourist Commission went all out to make the stay a memorable one. As high as 385 planes took part in this event, and not one plane was lost during those years.

Other projects included bringing the first hangar to Miami and establishing a blimp base at Opalocka; bringing the Coast Guard flying rescue service to Dinner Key; Selection of the site of the Homestead Air Base by Capt. Earl S. Hoag and R. V. Waters, recommended to Air Corps and War De-

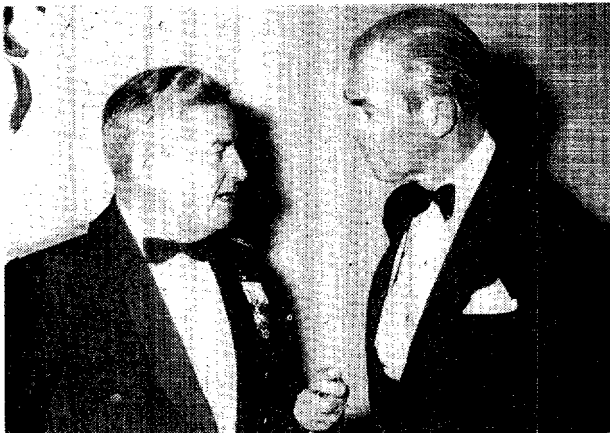
Continued on page 20

Members of the Greater Miami Aviation Association met November 30 at Miami Beach during the December 2 NAA Board meeting.





FAMOUS AVIATION PERSONALITIES—J. L. Atwood, President of North American Aviation Inc. (second from left) addresses the Wright Brothers Memorial Banquet after accepting an Elder Statesman of Aviation Award on behalf of the late James "Dutch" Kindelberger, founder of North American Aviation Inc. Other award recipients included Floyd B. Odum (left), founder of Atlas Corp. involved in many aviation interests; and John K. Northrop (right), founder of Northrop Corp. General James H. Doolittle (3rd from left), chairman of the banquet, made the presentations.



AVIATION HUDDLE—General Curtis E. LeMay, Air Force Chief of Staff, discusses the importance of manned bombers and new concepts for the future with Actor Jimmy Stewart at the 60th anniversary of powered flight celebration in Los Angeles. LeMay was the keynote speaker at the event.



GLIDER AND ROCKET PILOTS—Two famous pilots received Federation Aeronautique Internationale awards at the Dec. 17 Wright Brothers Memorial Banquet in Los Angeles. Paul F. Bickle (left), who received the Lilienthal Medal for glider records, talks to J. L. Atwood, President of North American Aviation Inc., and Joseph A. Walker (right), who received the De La Vaulx Medal for his high altitude records in the X-15.

1600 at 4 LOS A WRIGHT D

The Timers Aero Club reached the Annual Wright Day Dinner in the F Lee Pitt of the Los Angeles Cham President, coordinated the banquet engineering, scientific, historical, n joined to make the event the largest

General James H. Doolittle, (USA event. NAA President William A. Featured speaker was General Curti who was introduced by Brig. Gene

There was much interest in the v to nationally and internationally-kno a "Who's Who in Aviation." The av and helicopter record certifications, pilot achievements, aviation films, e a special recognition award.

A "presidential" list representing the event. Among those at the spe President, General Dynamics Astron dent, Douglas Aircraft Company; J. Aviation, Inc.; Daniel J. Houghton, tion; L. A. Hyland, Vice President, f President, Northrup Corporation; an Aircraft Corporation.

Military representatives included L 15th Air Force; Brig. Gen. J. J. To Rear Adm. John E. Clark, Commam

Recipients for the F.A.I. Film Festi dent, North American Aviation, In Sonnichsen, President, Parachute Cl Space Age"; and Jack L. Warner, I for the "Spirit of St. Louis."

Mrs. Muriel Simbro, the world's was given the Helms Athletic Found of the Year," while Gold Wings Av presented to Lewis T. Vinson and A

Jack L. Warner also received a sp aviation films produced by Warner F

Certificates also were awarded to establishing new light helicopter spee Erema, who established nine world

NATIONAL AERONAUTICS

4th ANNUAL ANGELES AY DINNER

big leagues when it launched its 4th
alladium at Los Angeles, December 17.
ber of Commerce and a Timers Vice
attended by 1,600 persons. Nearly 40
ilitary, flying and civic organizations
of its kind in West Coast history.

(F, Ret.) was General Chairman of the
Ong acted as Master of Ceremonies.
s E. LeMay, Air Force Chief of Staff,
ral Jimmy Stewart, USAF (Res.).

ariety of awards which were presented
own dignitaries whose names read like
wards covered military, general aviation
parachute jumpers, rocket and glider
lder statesman of aviation scrolls, and

industry was one of the highlights of
akers table were James R. Dempsey,
autics; Donald W. Douglas, Jr., Presi-
L. Atwood, President, North American
President Lockheed Aircraft Corpora-
Hughes Aircraft Company; Tom Jones,
d John V. Naish, Director, McDonnell

t. Gen. Archie J. Old, Jr., Commander,
'son, Director of Army Aviation; and
er, Pacific Missile Range.

yal Trophies were J. L. Atwood, Presi-
c., for the "X-15 Story"; Darrell C.
ib of America, for the "Sport of the
resident, Warner Bros. Pictures, Inc.,

champion women's parachute jumper,
ation Award for the "Woman Athlete
wards for 1,000 parachute jumps were
Arthur O. Kiesow.

ecial recognition award for the many
rothers Pictures for the past 20 years.

Army Capt. Bertram G. Leach, for
d records, and to civilian Pilot George
speed records in a Sabreliner.

March, 1964



HISTORICAL FLIGHT—NAA Record Certifications were presented to the crew of an Air Force B-58 Hustler Bomber which broke world speed records in a Tokyo-to-London flight. Left to right are Maj. Sidney J. Kubesch, A/C; Maj. John O. Barrett, NAA President William A. Ong, and Capt. Gerald R. Williamson.



X-15 PILOT RECEIVES AWARD—Bill Ong presents the F.A.I. De La Vaulx Medal to Joseph A. Walker, X-15 pilot extraordinaire, before 1600 persons at the December 17th Wright Brothers Memorial Banquet in Los Angeles.



FILM TROPHY WINNERS—(left to right) NAA President William A. Ong presented the F.A.I. Film Festival Trophy winners to Darrell C. Sonnichsen, President of the Parachute Club of America for the film "Sport of the Space Age," J. L. Atwood, President of North American Aviation Inc., for the "X-15 Story," and to Jack Warner, President of Warner Brothers Pictures, for the "Spirit of St. Louis."



EDWARD J. KING, JR., 1964 President, takes the microphone to open the 4th Annual Wright Day Dinner. At his right is Admiral Robert B. Pirie and on his left Walter S. Gray, retiring President, and William P. Lear, Sr.

KANSAS CITY HEARS ADMIRAL PIRIE

WILLIAM P. LEAR, SR., ON WRIGHT DAY PROGRAM

The Aero Club of Kansas City sponsored its fourth annual Wright Day Dinner on December 16, 1963 in the Ballroom of the Hotel President. The occasion marked the beginning of the 10th year in the life of the organization.

Vice Admiral Robert B. Pirie, USN, (Retd.) featured a program which included a talk by William P. Lear, Sr.

Admiral Pirie held the close attention of his audience which filled the big ballroom. In his address the Admiral discussed various phases of space, military, commercial and general aviation. A lively question and answer session followed the conclusion of Admiral Pirie's address. Most interrogations were answered in the Admiral's customary direct style. Questions dealing with matters involving classified information were handled smilingly by a man whose many years of military and diplomatic experience left his

would be interrogators far out in left field.

In recognition of a lifetime of service to the United States and to the development of aviation, Admiral Pirie was presented the Distinguished Service Award of the Aero Club of Kansas City.

William P. Lear, Sr. last appeared before the Aero Club in March, 1963. At that time, he told of his plans for the development of the Learjet, then in planning and mock-up stages. In his present discussion of the progress of the Learjet project Mr. Lear again demonstrated to an enthusiastic audience that he is, as usual, capable of making good his predictions. The Learjet program is on schedule, the test flights of the prototype have exceeded design specifications and production airplanes are now on the line in the new Wichita plant.

Good news to the aviation industry was Lear's announcement that

his company again is active in the avionics and auto pilot market. Lear will shortly be in production on several equipment items incorporating sharp advances in design, performance and weight saving.

Mr. Lear extended an invitation to his audience to visit the Lear plant at Wichita, where a complete tour of the facility and its programs would be made available.

Walter S. Gray, retiring President of the Aero Club, presided at the dinner, and Jack Mehornay was Master of Ceremonies.

The new slate of officers and directors who will guide the Aero Club in 1964 was installed, to take office January 1. Edward J. King, Jr. is President, Jack Mehornay, Executive Vice President and William E. Kelley, Secretary-Treasurer. Division Vice Presidents are Grace M. Harris, Lucien De Tar, Edgar Smith and Jack Jones.

Continued on page 20

Admiral Pirie in a pre-dinner discussion with President King (left), and Jack Mehornay, Executive Vice President.

A picture of enthusiastic confidence, Bill Lear tells the audience of the successful development of the Learjet.



THE SOARING SOCIETY OF AMERICA

By William S. Ivans

A modern sailplane or glider, from a height of only a mile above the earth, can glide to any point within a 5,000 square mile area. The pilot may elect to ease down at a sinking speed of 120 ft./min., taking 45 minutes to complete his descent; or he may extend dive brakes and descend at more than 10,000 ft./min., under full control, in half a minute. Using thermal or other upcurrent sources, flights in excess of 500 miles can be made. Gliders equipped with oxygen and insulation reach stratospheric heights; the present world altitude record is 46,303 feet above sea level, held by Paul F. Bickle of Lancaster, California. U. S. pilots hold many other world gliding records in altitude, distance and speed categories, and have done well in world competition.

The foundation for the notable record and competitive showings of our pilots is a strong and growing level of general gliding activity throughout the U. S. Each year finds an increase in the number and quality of flying equipment, the number of gliding clubs, the number of first-rate competitions, and the quality and availability of instruction.

Fast Growing SSA

Closely linked with the growth of gliding is the growth of its national organization, the Soaring Society of America, which is a Division of the NAA and its agent in matters relating to FAI gliding activities such as contest sanctions, record homologation, gliding badge issuance, world championship team selection and equipage, and representation on the World Gliding Committee.

The Soaring Society of America, or SSA, now has some 3500 active members. It is governed by a strong

and active board of 20 directors elected by membership on a regional basis for three year terms, plus six directors-at-large elected each year by the board to serve one year terms. Officers are elected by the board, serving one year terms. All policy matters are decided by vote



WILLIAM S. IVANS, President of the Soaring Society of America, Inc.
Mr. Ivans lives in La Jolla, California, and is serving his second term as SSA President.

of this 26 man board, which normally meets twice a year. Most board members are also members of, or chairmen of, the various committees of the Society. Officers and directors serve without pay, and without reimbursement of expenses.

The SSA maintains a small permanent staff, with headquarters in Santa Monica, California, under the direction of Executive Secretary Lloyd Licher. Lloyd and his wife, Rose Marie, are both experienced soaring pilots and both are aeronautical engineering graduates of the Massachusetts Institute of Technology.

A major task of the staff is the publication of a monthly magazine, *Soaring*, which is sent to all members and to subscribers; about 5000 copies are printed each month. Content of *Soaring* reflects the objectives and activities of the Society: There are instructional articles, descriptions of particularly interesting or significant flights, summaries of competition results, editorial matter, reports of committees, letters to the editor, and advertising from individuals and organizations. A high level of photographic and other illustrative material gives visual appeal to the magazine; the graceful, long-winged sailplane is a splendid subject for the expert photographer.

A long range task of the SSA is the publication of the *American Soaring Handbook*, which will provide chapters dealing with subjects of common interest to soaring people: Airplane Tow, Instruments and Oxygen, Training, and Cross-Country and Wave Soaring are chapters now available at nominal cost; others are in preparation. This has been a notably successful service of the SSA; several chapters are in their third

printing, and one very important customer, the FFA, has purchased several hundred copies for distribution to regional offices as reference material.

Working Committees

Much of the work of the SSA is done by committees of highly motivated, competent members who serve because there is a job to be done. This committee work includes drafting and revision of competition rules; preliminary homologation of record claims; issuance of soaring badges, supervision of elections; solicitation of sponsors for

Continued on page 20

Laboratory of Aviation Education — the

ACADEMY OF MODEL AERONAUTICS

By John Worth



JOHN WORTH, Executive Director of the Academy of Model Aeronautics. Mr. Worth's home is in Alexandria, Virginia.

What NAA is to full scale aviation, the Academy of Model Aeronautics is to model aviation. AMA until recently has concentrated on model flying activities, but currently developing programs involving scale models of NASA spacecraft and also historical aircraft for the Smithsonian Institution indicates an expansion of interest. AMA modelers build unpowered and powered models; the latter including gas engines, rubber motors, pulse jets and rockets. Models are flown free flight—both indoors and outdoors—and also by means of control line (tethered) or radio control. In short, AMA modeling brackets all types in the full scale spectrum.

20,000 Members

AMA's organization is much like NAA's and it operates along similar lines. It has, however, progressed more rapidly due to the demands of a membership which has grown to over 20,000. To service such a membership, AMA has had to learn many lessons quickly and has survived many crises along the road. Such experience has matured AMA and is the basis for optimistic

anticipation of still greater growth in the immediate future.

Operating under NAA's delegated authority as the official U. S. governing body for model aeronautics, AMA last year sanctioned over 800 model competitions, involving considerable contest coordination and Contest Board activity. There are 33 members on the AMA Contest Board and 14 Contest Coordinators—all voluntary officers serving with dedication and without salary.

In fact, there are over 150 such volunteer officers in AMA! On special committees, the Contest Board, advisory groups, the Executive Council (equivalent to the NAA Board of Directors), these officers have operated effectively despite handicaps of nationwide distribution and the necessity for doing most business by mail. A small but effective HQ staff of less than ten people has provided the direction and coordination which has kept this vast machinery functioning.

In International Competition

AMA operates two major programs on top of its many lesser services. One is an annual National Championships which provides the incentive for gathering together each year the foremost modelers of the U.S. (and several other countries). The meets are week long affairs and since 1947 have been hosted by the U.S. Navy. These meets consistently attract over a thousand contestants and a quarter of a million spectators! This proved drawing power indicates that public interest in aviation is not dead—it merely needs to be promoted properly to bring it out into the open.

The second major program covers the participation of U.S. modelers in international competition. From an uncertain status in the early '50's, this program has benefited greatly by NAA provided

overseas transportation, and has grown steadily. Last year the U.S. won the Radio Controlled Model World Championships for the third time in a row, taking 1st, 3rd and 5th places, plus the Team championships.

The program continues at home also, in the form of world record attempts. Last year we established new world marks in altitude and speed. AMA Vice President Maynard Hill flew his radio controlled model to 13,320 feet, aided by U.S. Navy radar and optical guidance; at the same record trials another AMA member flew his radio controlled model to a new speed record of 126.9 mph (that's just over 3 seconds each way through a 200 meter low level course!).

Sponsor Cooperation Needed

In spite of such achievements, far too many people, including many in aviation, still think of model airplanes as toys. The toy label has severely restricted the appreciation of model flying as a sport. Yet, over 10,000 AMA members are adults and over 900 of these are our Leader members, recognized specifically by AMA for positions of and contributions to scientific leadership.

Because of the technical background and incentives that model aeronautics provides, AMA is seeking the incorporation of model programs in our educational system and the acceptance on Main Street of the desirability of promoting local model activities. Significant also are the moral values involved—AMA's membership has an outstandingly low percentage of juvenile delinquents.

AMA looks to NAA for support in this phase of interest. While AMA has done well on its own to promote model aviation, it has not had the support of full scale aviation interests in general. Yet there are many benefits to be derived from joint efforts of full scale and model aviation groups. Just as the Navy has found that modeling provides substantial public drawing power,

NATIONAL AERONAUTICS

local airport operators or regional aviation organizations may find a similar experience rewarding in the promotion of an aviation-oriented public program.

Sponsorship of model air shows in the form of trophies or financial assistance, and the providing of public relations type press agency are the two most needed aids to modelers. But on showmanship, competition organization, officiating and enthusiasm, modelers can hold their own. Given a flying site such as the local airport, plus the type of help mentioned, model flyers will put on a tremendously satisfying performance.

AMA Headquarters can supply interested people with further information and contacts in local areas. AMA also has various terms of membership for patrons, boosters and corporates, in addition to general memberships in Open (over 21), Senior (from 16 to 21) and Junior (under 16) categories at \$6.00, \$4.50, and \$3.00 each, per year. Included are personal injury and property damage insurance and a subscription to AMA's monthly magazine. Find out more by writing to: A.M.A., 1025 Connecticut Ave., N. W., Washington 6, D. C.

Spotlight on Donald Douglas, Sr.

Continued from page 9

tional Advisory Committee for Aeronautics, now the National Aeronautics and Space Administration.

The third decade saw the advent of the role of aircraft in transportation and commerce, including the beginning of regularly scheduled commercial service. C. E. Woolman, president and general manager, Delta Air Lines, represented that period.

Donald Douglas, already recognized as the 1963 Wright trophy winner, was introduced as symbolic of a most significant decade of aircraft design and one in which American aviation responded to the staggering demands of World War II.

The fifth decade of aviation progress was noteworthy for the development of American air power, when the airplane became the prime tool of the armed forces.

Colonel Francis Gabriski was introduced as symbol of the 1943-53 period.

The technological advances of the preceding five decades led to the breakthrough into space during the sixth decade, for which Commander Alan B. Shepherd, National Aeronautics and Space Administration, was cited.

Those honored as "symbols" of the first 60 years of aviation progress took their bows from the head table. Other head table guests were: The Honorable Alan S. Boyd, Chairman, Civil Aeronautics Board; William J. Coughlin, President, Aviation/Space Writers Association; Emory L. Cox, President, Airport Operators Council, Inc.; H. Webster Crum, Chairman, General Aviation Council; T. H. Davis, Chairman of the Board, Association of Local Transport Airlines; E. Joseph Finan, Aero Club Scholarship Winner; Lieutenant General Harold W. Grant, Deputy Administrator, Federal Aviation Agency; Karl G. Harr, Jr., President, Aerospace Industries Association of America; The Honorable Oren Harris, House of Representatives; J. B. Hartranft, Jr., President and General Manager, Aircraft Owners and Pilots Association; Lieutenant General Charles H. Hayes, Assistant Commandant, United States Marine Corps; Stanley Hiller, Jr., President, The American Helicopter Society, Inc.; The Honorable Philip S. Hopkins, Director, National Air Museum.

Also introduced from the head table were: S. Wade Marr, President, Kill Devil Hills Memorial Society; The Honorable Clarence D. Martin, Jr., Under Secretary of Commerce for Transportation; Admiral David L. McDonald, Chief of Naval Operations; General William F. McKee, Vice Chief of Staff, United States Air Force; The Honorable George P. Miller, House of Representatives; The Honorable A. S. Mike Monroney, United States Senate; Vice Admiral Robert B. Pirie, USN (Ret.), Board of Directors, National Aeronautic Association; Admiral Edwin J. Roland, Commandant, United States Coast Guard; Major General Robert P. Taylor, Chief of Chaplains, United States Air Force; Stuart G. Tipton,

President, Air Transport Association; The Honorable James E. Webb, Administrator, National Aeronautics and Space Administration; General Earle G. Wheeler, Chief of Staff, United States Army; John H. Winant, President, National Business Aircraft Association, Inc.; The Honorable Eugene M. Zuckert, Secretary of the Air Force; The Honorable John Bell Williams, House of Representatives; and Major General Lucas V. Beau, USAF (Ret.), President of Aero Club of Washington.

Rep. Williams was toastmaster for the occasion. An active pilot, he is chairman of the House Transportation and Aeronautics Subcommittee and president of the Congressional Flying Club. Major General Beau, in his capacity as president of the Aero Club of Washington, presided at the dinner ceremonies.

In addition to sponsoring the annual Wright Memorial Dinner, the Aero Club of Washington, founded in 1909, fosters and promotes interest in the science of aeronautics in general. Toward this end, it provides scholarships for outstanding students, co-sponsors a model air show, and conducts a year-long series of luncheons at which leading aviation figures address the membership. The annual highlight of the program is the Wright Memorial Dinner.

The 1963 dinner was generally considered to have been among the most successful in the club's 55-year history. George W. Fey, Sikorsky Aircraft Division of the United Aircraft Corp., was chairman of the Wright Memorial Dinner Committee.

Calendar

April 6-7—22nd Annual Meeting, National Aerospace Services Association, International Inn, Washington, D. C.

May 28-June 1 — Mid-Atlantic Regional Soaring Competition, Westminster, Maryland, Airport.

June 11-13—15th National Maintenance & Operations Meeting, Reading Municipal Airport, Reading, Pennsylvania.

June 30-July 9—31st Annual U. S. National Soaring Championships, McCook State Airport, 8 mi. N. of McCook, Nebraska.

August 15-16 — AMA Midwest Regional Championships, Richards Gebaur Air Force Base, Kansas City, Missouri.

*Pilots Old and New—***KEEP THE ANTIQUES FLYING**

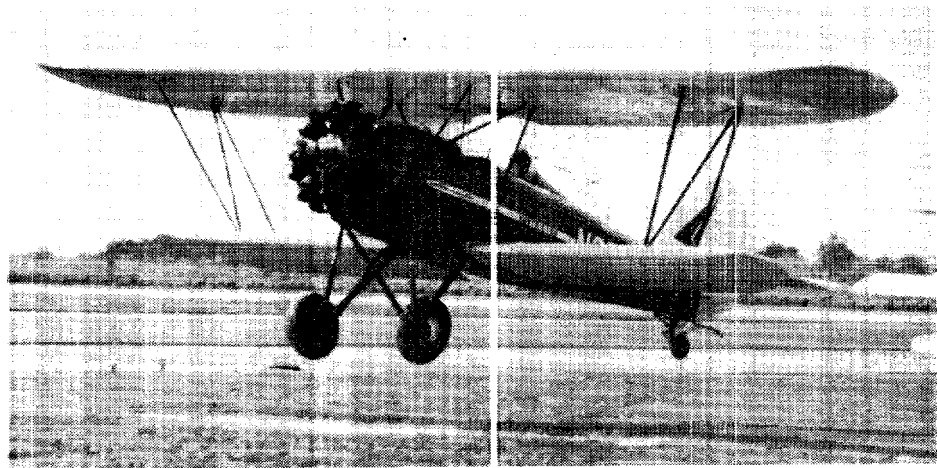
By Bob Taylor, President Antique Airplane Association

Ten years ago when this motto "Keep the Antiques Flying" was first made the slogan of the infant Antique Airplane Association, very few antiques or even classic aircraft were still airworthy. A few scattered enthusiasts and die-hards maintained and flew their beloved machines in their own local areas. Old aircraft were unwelcome at many airports and those who flew them were considered somewhat of a mental case. When these scattered and scant buffs were united into an association the picture changed, not overnight nor without trial and tribulation. Today the AAA has a modest membership of 2500 members working together not only to preserve, but to keep antique and classic aircraft airworthy. Many other members still without aircraft to restore are seeking them out and finding them in some exotic places like Alaska and Mexico, as well as right next door where they may have been stored for many years. The aircraft now flying and those yet to be restored will provide their owners with many hours of safe and sane flying, despite the few critics that still prefer to look only forward and not back in aviation.

20 AAA Chapters

The AAA now has twenty Regional Chapters scattered throughout the United States. These Chapters provide local activities and help keep interest high throughout the year. Unique in the AAA is what is known as a "Type Club." This is a group of members with a specialized interest in a certain make of aircraft. For instance, those owning or wanting to own aircraft like a Waco, Fairchild, Fleet or Travelair, to name a few, have their own organized club mainly on a correspondence basis. At the National AAA FLY-IN they convene and enjoy their own particular types of aircraft. The National Waco Club had 27 Wacos on the line at the 1963 FLY-IN. How long has it been since you saw that many Wacos in one line on one airport?

These "Type Clubs" help round out the communication between those who have specific needs with their old aircraft. The AAA acts as a clearing house of information on all types of aircraft as well. The AAA publishes its own *News* monthly which is full of photos and information on all phases of antique and classic airplane activity.



A beautiful example of restoration—the Warner powered Bird flown by Norm Wolf at 1963 AAA Fly-In.

In 1954 the first AAA FLY-IN and convention was held at Ottumwa, Iowa and a grand total of five antiques and seventy-five members attended. In 1963 at the same site the AAA hosted a FLY-IN that had 152 antique and classic aircraft on the line. Over six hundred modern aircraft also attended.

The AAA maintains its National Headquarters on the Ottumwa Municipal Airport. Within its building there a museum has been established with engines, art and relics on display. An aviation library of significant size has also been founded.

Why should anyone be interested in owning and flying an old airplane? With airline pilots, doctors, lawyers, many military pilots, mechanics and almost any profession represented it's hard to pinpoint any one reason. With some it's the return to simple basic flying by the seat of your pants. With others it's the desire to recreate an era we recall but missed being a part of. Others get their satisfaction in fine workmanship which is so evident in the antique airplanes seen today. Whatever it is the antique movement has arrived and the supply of restorable aircraft seems to grow rather than diminish.

The designers and builders of the twenties and thirties knew their business and with the AAA to guide and encourage such activity we can expect to see them in the air for many more golden years.

If you are interested in the Antique Airplane Associations send \$1.00 for membership details and two recent copies of the *AAA News* to Antique Airplane Association, Route 5, Municipal Airport, Ottumwa, Iowa.

ON THE HORIZON

Compulsory Aircraft Insurance?

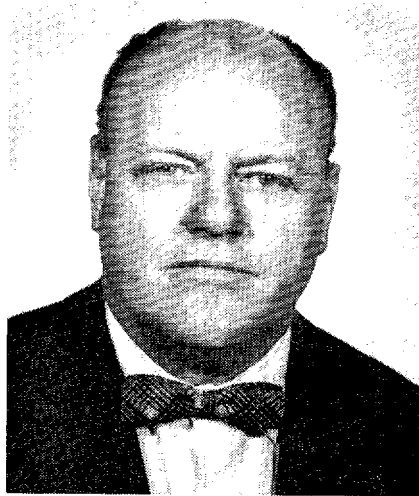
By Clyde Barnett

Compulsory purchase of PI&PD insurance is a constantly increasing threat to the welfare of General Aviation. Although a very high percentage of owners carry adequate insurance, there is always with us the small number of owners who do not. And statistically these prove to be the ones who end up doing damage with an airplane. This results in an increasing political hue and cry for compulsory coverage.

Obviously, if the insurance companies are going to be forced to carry *all* owners they will likewise be forced to raise the rates considerably above current levels. The "assigned risk" experience of the companies in those states with compulsory auto insurance certainly demonstrates and proves this point. All owners experienced a doubling and in some cases a tripling of the cost of insurance protection.

The only possible way to escape this result is for the aviation group itself to face up to the problem and go the "preventative maintenance" route. Instead of sitting back doing nothing until individual state legislatures get disturbed enough to lash out in anger and come up with the "easy" answer . . . compulsory insurance!

We must take the lead ourselves and offer legislation that will adequately answer the problem and yet



CLYDE BARNETT, Director, California State Aeronautics Department, and a Director of the National Aeronautic Association.

be so designed that we can still live with and afford the result. We must accept the principle of financial responsibility to the public over whose heads and property we fly.

The automobile people have now pioneered the way for us in some states. The basic concept is that although insurance is not mandatory, if you have an accident you must come up with proof of ability to absorb the damage costs: i.e., cash deposit, a bond, or a policy. Failing this, you lose your operating privileges in that state. This eliminates the high percentage of chronic, irresponsible pilots, covers most accidents, reassures the public and most important . . . it puts a low on

the books that fills the void and generally serves as an excellent piece of preventative maintenance to forestall compulsory insurance. Most importantly, it does not force the insurance companies into "assigned risks" and we thereby escape the forced increase in rates, which in turn aids in keeping down the cost of owning and operating an airplane.

It is currently possible to insure a light aircraft for a minimum Property Damage and Public Liability for under \$50! Let's keep it that way. We must recognize that getting the youngsters into aircraft ownership is our future and only by keeping the initial experience costs within their reach do we have a future. Only four or five states have done the job along these lines. It is a legislative problem and only the states can do the necessary things. The only unfortunate aspect of this type of procedure is that to make it work, it will require some kind of "Identification" registration and this will cost a dollar or so to accomplish. However, this seems a small price to pay to avoid runaway insurance costs as experienced by the automobile owner where compulsory insurance was considered the only expedient solution.

Incidentally, there are many fall-out benefits of such a local registration in spite of its seeming duplication

Continued on page 20

FRANCES NOLDE HEADS 1964 MEMBERSHIP COMMITTEE

Frances W. Nolde has been named Chairman of NAA's 1964 Membership Committee. She is Vice President of the Eastern Region.

Committee members include General William K. Martin and Major William Taylor, USAF, Joseph W. Adams, Edward S. Sweeney, James T. Pyle and Donald Webster, a past President of NAA. The Committee met on January 22 with Executive Director Giblo and drew initial plans for an extensive

membership drive in 1964. Particular attention will be given to members of the Armed Forces on both domestic and foreign bases.

Until 1962 Mrs. Nolde was NAA's representative on the Touring and Sporting Aviation Committee of the FAI. She was nominated for the FAI Paul Tissandier Diploma and received the award at the FAI General Conference in Athens in 1962. Mrs. Nolde flies a Navion. Her home is at 1532 29th Street, N.W., Washington 7, D. C.



Compulsory Insurance

Continued from page 19

tion of Federal records. You will then have some facts to back up other types of aviation problems, such as the dollar value of your state fleet, number and types of equipment, etc. All of this data would be invaluable when selling investment in airports and new facilities. We must remember that we are using the PUBLIC'S air only permissibly and when we become a problem, they turn to strict regulation quickly and without much regard for our welfare.

Individual legislators are always looking for legitimate "voids" in the law and a handful of complaints can quickly produce a bill that is tough, if not impossible, to fight. Pilots of all people, should understand "Preventative maintenance."

The Greater Miami Aviation Association

Continued from page 11

partment and to Dade County Commissioners; and advocating the creation of a Citizens Aviation Advisory Board to aid the Dade County Port Authority.

In 1961 The Wright Brothers Medal Award was inaugurated, to be presented each year on December 17, the anniversary of the first flight of the Wright Brothers. In 1961 the medal was awarded to John Paul Riddle; in 1962 to Captain Dick Merrill, and in 1963 to Dr. Donald W. Smith. One of the conditions of the award is that the recipient must have contributed to the development of aviation in this area for a period of twenty years or more. In 1962 the Brig. Gen. Frank P. Lahm Medal Award was set up to recognize the contributions of an outstanding officer at Homestead Air Force Base each year. In 1962 it was awarded to Brig. Gen. John B. McPherson, 823rd Air Division Commander SAC. In 1963 the award went to Col. Frank J. Collins, Commander, 31st Tactical Fighter Wing. It would take several pages to outline the backgrounds of these officers. The competition on this award is rugged to say the least.

Annual Wright Day Dinner

Each year the GMAA has an an-

nual banquet. Starting in 1963, it has been set for December 17 each year, except when that date should fall on a Sunday. It is called The Wright Brothers Dinner, to tie in with NAA and the rest of the country. Last December some 200 guests attended the first of these dinners. Two guest speakers were on the agenda. The Hon. George E. Fouch, Deputy Assistant Secretary of Defense gave a very comprehensive report on "Progress In The DOD Cost Reduction Program." Brig. General Wilbur W. Aring, Commander, Third Air Force Reserve Region CONAC, related the history of "Silver Wings" the fifty years since the awarding of the first silver wings to a military aviator in 1913.

One of the main projects now in the works for GMAA is the raising of \$50,000 for an Aviation Education Foundation, to help further proper training to deserving students unable to complete higher education due to lack of finances; and to help the Civil Air Patrol and other similar organizations in furthering their aviation and aerospace knowledge.

Membership in GMAA is open to anyone in the United States who is interested in seeing this area continue its aerospace growth. We are proud of the fact that some 56,000 persons are employed in the aviation industry here and earn over 200 million dollars annually. We as an organization salute the pioneers of yesterday, the ones who have built this area, and those of NAA who have done so much elsewhere. However we think the future holds much more, and we are looking forward to the flights on the paths of space.

Kansas City Hears Admiral Pirie

Continued from page 14

New Directors elected to the Aero Club of Kansas City Board are Garratt Holland, Orville E. Kuhlman, E. W. McGrade, William Mauer, Frank Orey and Leonard Ohlhauser. Chairman of the Board is retiring President Walter S. Gray.

Admiral Pirie flew to Kansas City direct from Europe, and immediately after dinner was flown East by Mr. Lear in his Learstar.

The Soaring Society of America

Continued from page 15

the annual National Championships, selection and equipage of teams to take part in World Championships; general supervision of all SSA publications and solicitation of authors for special tasks such as writing chapters of the Handbook; promotion of membership in the Society; administering the numerous annual and special awards; gathering and disseminating information on accidents; maintaining and adding to a large rental stock of soaring films, conducting technical and scientific researches and publishing results; maintaining a close liaison with FFA or glider pilot and aircraft certification, air traffic control and other vital issues; and many other tasks which reflect the aims of SSA and the willingness of its members to help advance their sport.

The SSA operates on a balanced budget, with most of its income derived from annual membership dues, presently \$10 per year. New members are most welcome! For information on membership, or for brochure material, write SSA, P. O. Box 66071, Los Angeles, California 90066.

Long Beach Organizes

The Long Beach Aero Club soon will be formally chartered as a Chapter of the National Aeronautic Association, following a preliminary meeting called by State Aeronautics Director Clyde Barnett at Long Beach on January 15.

Bob Blodgett of Air Oasis on LGB acted as temporary chairman of the forming group. Present were Lee Craig, Aerospace Editor of the Long Beach Press Telegram, Long Beach Airport Manager Nick Dallas, Star Dillatush and Bob Boone of the FAA, Leo Yoder of Aircraft Sales and Brokerage, and Bert Eldridge of Air Oasis.

The founding group will proceed to organize the original charter members and the first formal meeting of the organization will be held in the near future.

NAA President Bill Ong was present at the meeting, held in a private dining room at Long Beach Airport.

Whirly-Girls

Tony Page, blond bombshell of Cross Country News, is the latest addition to the ranks of the Whirly-Girls, an international organization of women helicopter pilots. She now appears as No. 67 in the membership roster. Her helicopter rating climaxes a long and distinguished career in aviation for Tony Page. She is a member of the Aviation Space Writers Association and received the James J. Strebis Memorial Trophy in 1962 for "Meritorious Reporting of Aviation/Space Activities." She has been twice named recipient of the Sherman Fairchild International Air Safety Writing Award.

Named Woman of the Year in 1960 by the Women's National Aeronautical Association, Tony is a member of the Ninety-Nines, Inc., the Texas Private Fliers Association, The American Helicopter Society and is a member of the Advisory Council of the Texas Aeronautics Commission.

During her training, Tony flew the Bell-47G2, and the Hughes-269A and received her private rating on a Brantly B-2 helicopter on December 30, 1963 at Sam Houston's school in Fort Worth, Texas.

Getting her rating and Whirly-Girl No. 66 just a month before Tony was Mrs. Gay D. Maher of Marlton, New Jersey. She is a flight instructor at the Flying W Ranch in Medford, New Jersey and received her commercial and flight instructor helicopter ratings on a Brantly B-2B helicopter based at the factory in Frederick, Oklahoma. Immediately after passing her flight tests Mrs. Maher took delivery of the Flying W's new Brantly. She flew the chopper from Oklahoma to New Jersey, the first woman ever to have flown a helicopter solo from west to east, according to the Whirly-Girls.

A Goal Achieved

The Ninety-Nines, Inc., brought a difficult project to successful conclusion with the loading of a Piper Colt aboard a freighter which would deliver the airplane to Korea. The Project, called "Colt for Kim . . . and the Women of Korea" involved paying for the airplane with green stamps obtained by the Nine-

ty-Nines and their aviation friends. The Colt "MIJI-KI" will be used by Capt. Kyung O Kim to train the members of the Korean Womens Aviation Club, composed of approximately 200 college students and high school graduates who were screened from 2,000 applicants.

The printed invitation to the acceptance ceremony at Seoul airport paid this tribute to the Ninety-Nines: "Another symbol of American-Korean friendship has arrived. The Ninety-Nines, Inc., international organization of women pilots of the United States of America, has presented an airplane to Capt. Kyung O Kim, ROK Air Force Reserve, as a token of love. This plane will be used to train women in Korea to fly."

Akron Chapter Honors Arlene Davis

Continued from page 10

duction of their own designs.

Speaking critically of the present air traffic control system, Pyle said, "It is far too complicated. Our manufacturers are striving for too much sophistication in aircraft design."

In 1956, Mr. Pyle became the Deputy Administrator of CAA and was appointed Administrator in 1958. He became Deputy Administrator of FAA in 1959. Presently, he is Vice President of General Precision, Inc. Mr. Pyle began his active flying career with Pan American World Airways in 1935. He was Assistant Vice President when he left the company in 1946. He keeps his Pilot Certificate current, holds an ATR rating and has logged more than 12,000 hours.

Powder Puff Derby

The 18th Annual Powder Puff Derby, the Ninety-Nines All-Woman Transcontinental Air Race, will start July 4, 1964 from the Fresno Air Terminal, Fresno, California, and finish at a deadline of noon, July 8, at Atlantic City, New Jersey. More than 80 women pilots are expected to compete over the 2,573 mile course for a share in the total cash purse of \$3,000 and numerous trophies.

The event is open to all qualified women pilots flying stock model aircraft, single or multi engine, 145

to 400 horse power. Only daylight flying in VFR or "contact" weather as defined by the F.A.A. is permitted. Winners are determined on a handicap basis computed from established "par speeds" for each make and model of aircraft.

Nine airports have been officially designated as refueling and overnight stops. They are Las Vegas, Nev., Winslow, Ariz., Albuquerque, N. M., Amarillo, Texas, Oklahoma City, Fayetteville, Ark., Cape Girardeau, Mo., Lexington, Ky. and Morgantown, Va. In Atlantic City the planes will land at the F.A.A.'s National Aviation Facilities Experimental Center. Race headquarters are the Hacienda Motel in Fresno and the Dennis Hotel in Atlantic City.

Complete information may be obtained from either Kay A. Brick, Race Chairman, Teterboro Airport, Teterboro, New Jersey, or Barbara London, Vice Chairman, at 551 Margo Avenue, Long Beach 14, California.

AWIAR to Mexico

Virginia Britt, General Chairman of the All Women's International Air Race, has announced details of the 1964 event.

The starting point is Monterrey, Mexico. Contestants will depart Monterrey on May 11 for the finish line at Gainesville, Florida which must be reached by 5:00 p.m., May 13. The Victor Awards Banquet is scheduled for the evening of May 15.

Leaving Monterrey the pilots will clear at McAllen, Texas, then proceed on course to Austin and Tyler, Texas, Jackson, Mississippi and Montgomery, Alabama to Gainesville.

The race is open to licensed women pilots with pilot-in-command flights of over 350 miles, and 1954 and later model non-supercharged, stock aircraft of 100 HP and above. The entry fee is \$40.

Pilots will vie for individual trophies and a cash prize of \$2,500 divided among the six top finishers. Entries open March 15 and close April 15.

Further information may be had from Virginia Britt, 114 S. E. 15th Street, Fort Lauderdale, Florida 33316.



Cessna's New 310 I Announced

Cessna Aircraft Company says its popular twin-engine executive Model 310 I for 1964 has a long list of new features for greater all-around utility including "wing lockers" for additional luggage space and will sell for the same price as the 1963 model, \$62,950 f.a.f. Wichita.

Company officials pointed out the new model offers the best all-around package for versatility on the market today. "The 310 I is a complete package designed to fulfill many needs. It's ideally suited for instrument or visual flight, short or long cross country trips and can operate efficiently from short rough fields or long paved runways," according to Frank Martin, Cessna's vice-president of commercial aircraft marketing.

In addition to having the largest cabin in its class, the usefulness of the 310 I's cabin area has been further enhanced with the addition of "wing lockers" in the engine nacelles and increasing the aft cg limit which has resulted in removing all

electronics installations from the cabin area.

The new lockers will accommodate a variety of luggage including two-suiters, overnight cases and miscellaneous articles weighing up to 240 pounds. This provides the 310 I with total luggage capacity of 600 pounds, and permits greater loading flexibility, while freeing the cabin area for items normally needed in flight or overflow baggage. Located on the aircraft's cg, the lockers have no effect on take-off, flight or landing characteristics regardless of how the weight is distributed in either of the two compartments.

Exhausts have been routed into new "thrust tubes" located under the wing which provide additional cooling, extra thrust and reduces cabin sound level. Extended engine access doors for easier serviceability also have been incorporated in the new nacelles.

Flight and landing characteristics of the 310 I have been improved with a new control system, making

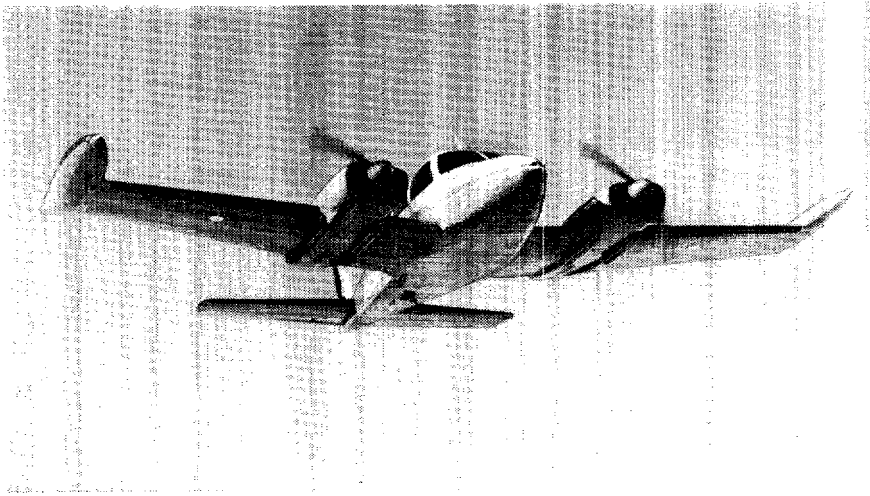
the 310 I easier to fly and land.

A new wing de-ice system operated by either of the two vacuum pumps provides for continuous operation and is available as optional equipment.

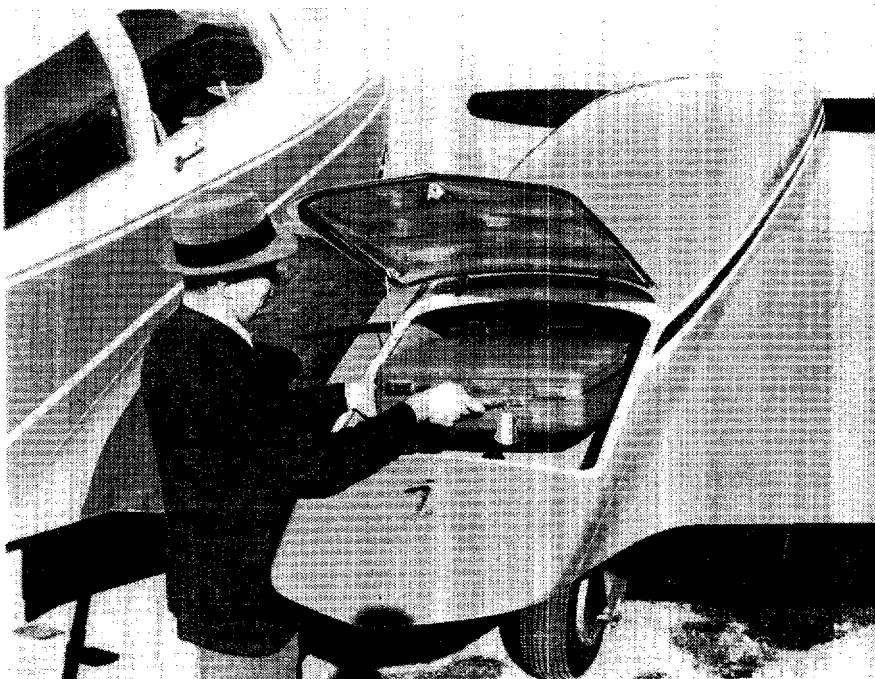
Reduced service costs have been achieved with a new optional Cessna-Crafted oil filter which doubles the time between oil changes, easier access to cabin speakers and antennas and the addition of a tunnel along the left side of the cabin wall for easier access to electronics and systems wiring.

Additional features include extra panel space for center mounting of electronics equipment, new optional anti-precipitation antenna for static free ADF reception, new control wheel with built-in rheostatically controlled map light and additional aft travel of pilot and front passenger seat for easier entry and exit.

New 80-inch lightweight propellers, each six pounds lighter than previous models, have a lower pitch angle that improves starting characteristics. Other features include



The canted fuel tanks form a dihedral wing tip that greatly improves lateral stability



The 301 I has the solution for storing baggage conveniently.

Model 411 Soon

Cessna has completed the major portion of the development on its new twin-engine executive Model 411 and is now accepting firm orders at a base retail price not to exceed \$120,000.

First production models of the six-to-seven-place aircraft are expected to be available during the winter of 1964-65.

The company revealed that flight development and structural testing have been finished and the airplane has been released for tooling, which is nearly completed, and subsequent production.

A detailed breakdown of specifications and performance will be announced in the near future.

Federation Aeronautique Internationale

Continued from page 5

type of society work. It gives one an opportunity to meet progressive and high-caliber people from other countries, and through the interchange in committee activity provides perspective and point of view of people brought up and motivated by different cultural conditions. Also, it gives one an understanding of the difficulties of idea exchange and transmission of information

correctly and within the right frame of reference from one language to another. Today, through the vast increase in transportation and communication, we are continually coming closer and more intimately involved with the people of other nations. This is one of many international organizations through which we as a country and as individuals are able to implement this interplay in communication to better understand our foreign neighbors so that we are able to live together with them in a more friendly and peaceful community.

Denver Chartered

At Long last Denver, one of the busiest spots in general aviation, has an Aero Club Affiliate of the National Aeronautic Association. The creation of the new organization is due entirely to the energy and enthusiasm of Jack Lowe, Mountain Region Vice President of NAA, who signed up 31 charter members.

At press time, we do not have the list of Officers of the Denver Aero Club. Jack Lowe stated that E. B. Jeppesen of Denver will be President and that the remainder of the Officers and Directors will be announced at the time of the first formal meeting of the organization planned for late February or early March. Mr. Jeppesen is a Director of National Aeronautic Association and a prominent figure in general aviation. He and Jack Lowe may well develop one of the most active Aero Clubs in the country.

NAA long has desired an affiliate in Denver. The area not only is extremely active with personal and business aircraft, but also provides flying country unexcelled for the European type of competition which NAA hopes to develop in this country. Both Lowe and Jeppesen are extremely busy men. Jack has been almost commuting between Denver and his interests in Taliti, and Jepp has been traveling extensively in Europe in developing the rapidly expanding business of the E. B. Jeppesen Company. Despite the demands upon their time the two men have made a real contribution to aviation with the organization of the Denver Aero Club.

JOIN NAA NOW

KEEP AMERICA FIRST IN THE AIR



THE NATIONAL AERONAUTIC ASSOCIATION is the oldest non-profit national aviation organization in America; chartered in 1922 as the successor to the Aero Club of America, founded in 1905. Its efforts and its resources are directed to the advancement of all elements of flight, grinding no personal or political axe for one at the expense of another.

NAA is the United States representative of the Federation Aeronautique Internationale, world authority for the certification of aircraft and spacecraft records and the international body that groups together the national aero clubs of 52 nations.

Here are a few of the personal benefits you receive as a member of NAA!

● NATIONAL AERONAUTICS MAGAZINE

Published quarterly; covering human achievement in all realms of flight. Each issue includes timely feature articles, FAI reports and record accounts, sporting aviation coverage and news of the aircraft industry.

● INSURANCE THAT GROWS

NAA membership includes \$2,500 Travel Accident Insurance the first year, and \$3,000 each year thereafter . . . plus \$250 Injury Medical Expense the first year and \$500 each year thereafter. You get world-wide protection as a passenger on any land, sea or air conveyance licensed to carry passengers, including MATS.

● AUTO CREDIT AND DISCOUNTS

Avis car rental credit privileges—no application for credit and no deposits—with up to 20 per cent discount on car rentals.

● MAGAZINE AND BOOK SAVINGS

25 per cent discount on subscriptions to selected aviation magazines; up to 40 per cent on interesting, informative Aerospace Book Club selections.

● SILVER WINGS—AND A VOICE

Your NAA silver wings identify you as a member of the aerospace team. Every member is entitled to vote.

ANY U.S. CITIZEN INTERESTED IN AERONAUTICS AND SPACE FLIGHT IS ELIGIBLE FOR ACTIVE MEMBERSHIP IN THE NAA

COMPLETE BOTH PARTS OF FORM, CLIP ON BROKEN LINE, ATTACH DUES, MAIL TODAY!

Membership Application and Insurance Record

NATIONAL AERONAUTIC ASSOCIATION ●

1025 Connecticut Avenue, N.W. ●

Washington 6, D.C.

NAA MEMBERSHIP APPLICATION

I hereby apply for Active Membership in the National Aeronautic Association and enclose payment for my dues and my subscription to NATIONAL AERONAUTICS Magazine.

Name _____

Mail Address _____

City — Zone — State _____

Business/Occupation _____

Do you hold a current Pilot License? ☐ YES ☐ NO

Do you currently own a Plane? ☐ YES ☐ NO

NAA MEMBERSHIP YEAR IS DEC. 17 THRU DEC. 16.

TRAVEL ACCIDENT INSURANCE RECORD

Your NAA membership includes the following accident insurance and medical expense coverage at no extra cost. Travel Accident Insurance—\$2,500 First Year; \$3,000 Thereafter. Injury Medical Expense—\$250 First Year; \$500 Thereafter.

Name of Insured _____

Beneficiary's Name _____

Address _____

City — Zone — State _____

☐ Please send me information on Pilot and Crew Member insurance.

DUES: If you join between Dec. 1 and May 31—\$10

If you join between May 31 and Nov. 30—\$5

PLEASE PRINT

HAVE
YOU
RENEWED
YOUR
MEMBERSHIP
FOR
1961?
